



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,943	03/02/2004	Hidetomo Tanaka	1232-5316	4123
27123	7590	12/08/2005	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			SEVER, ANDREW T	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.		Applicant(s)	
	10/791,943		TANAKA, HIDETOMO	
	Examiner		Art Unit	
	Andrew T. Sever		2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-10,12 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-10 and 12 is/are rejected.
- 7) ☒ Claim(s) 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 5, 6, 9, 10, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Watanabe (US 6,829,110).

Watanabe teaches in figures 5-7 an optical unit used in a projection type image display apparatus, the optical unit comprising:

A first optical element (910), which performs at least one of color separation and color combination of light;

A holding member (800) attached to the first optical element; and

A second optical element (960 R, G, B) held by the holding member, the second optical element acting optically on one of incident light onto the first optical element and emergent light from the first optical element,

Wherein the holding member includes a holding structure holding the second optical element (800 collectively holds the second optical element to the first), the holding structure preventing the displacement of the second optical element in an optical

axis direction of the first optical element which passes through the second optical element (it is held by elastic elements 840 that allow it to displace in a direction other than the optical axis) and allowing the rotation of the second optical element in a plane orthogonal to the optical axis direction (the entire holding device allows the second optical device to rotate (see abstract).

With regards to applicant's claim 6:

See column 11 lines 52-56 that teach that the second optical element is held at least partially by an adhesive agent instead of the elastic pieces in the specific embodiment cited above.

With regards to applicant's claim 9:

There is clearly space, which would allow passage of cooling air shown in figure 10.

With regards to applicant's claim 10:

The second optical element is specified to be a wavelength-selective polarization-rotating element (see column 12 lines 13-19.)

With regards to applicant's claim 12:

See figure 5, which shows the optical system in the context of a projection type image display having 3 color paths (R, G, and B).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe as applied to claims 5, 6, 9, 10, and 12 above, and further in view of Takizawa (US 6,657,680 as cited in the previous office action).

As described in more detail above Watanabe teaches an optical unit and projector utilizing it, which among other things includes a first optical element, a second optical element, and a holding member. Watanabe does not teach what these three elements comprise of; however such a teaching is provided by Takizawa which teaches in figure 120 an optical unit similar to Watanabe, which includes first and second optical elements (first element is a prism like that of Watanabe and is taught by Takizawa in column 11 line 18 to be made of glass, the second element is a polarizer and taught by Takizawa in column 9 lines 21-35 and column 3 lines 31-34, as is acknowledged by the applicant on applicant's page 2 these films are made of polycarbonate layering which is a type of resin), and a holding member (which is taught in column 9 lines 5-14 to be made of metal or alternatively partially of resin). These meet the claimed condition of $a_1 < a_3 \leq a_2$ wherein a_1 , a_2 , and a_3 represent the linear expansion coefficients of the first optical

element, second optical element, and holding member respectively (see column 11 lines 24-39). Takizawa teaches in column 11 lines 24-39 that by using these materials, stresses due to heating are minimize; resulting in a better image since alignment (after adjusting) is maintained. Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the respective materials taught by Takizawa in the optical unit of Watanabe as they would result in a better image that is not affected as much by the heating of the optical components and frame members.

With regards to applicant's claim 2:

A3 is closer to A2 then to the A1. (It is not clear how close is closer as applicant claims it, however it is known that optical glass has a very low linear expansion coefficient compared to that of metal and resin. See also column 3 lines 5-27 of Takizawa).

With regards to applicant's claim 7:

See above which clearly teaches the first optical element is formed of glass and the second is formed of resin.

With regards to applicant's claim 8:

It is well known in the art that adhesives generally are not as hard as metals and it would have been obvious to one of ordinary skill in the art at the time the invention was made not to employ an adhesive which was harder then the metal frame as that would most likely result in failure of the adhesive as the frame expands and contracts due to heat. (It

is not clear what physical measurable quantity applicant is referring to with the term hard.)

Allowable Subject Matter

5. Claim 25 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is a statement of reasons for the indication of allowable subject matter:
The specific location of the adhesive claimed in claim 25 was not found in the prior art and it would not be obvious to modify Watanabe to have adhesive in these positions without utilizing impermissible hindsight.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 2, 5-10, and 12 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's replacement of the limitation "displacement" in independent claim 5 with the term "rotation" has required the addition of the Watanabe reference. Accordingly though it is acknowledged that the specific frame taught by Takizawa may not allow such

Art Unit: 2851

rotation; Watanabe alone or in combination with Takizawa does teach rotation the second optical element relative to an orthogonal plane to the direction of the optical axis.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2851

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "W B Perkey".

AS

William Perkey
Primary Examiner